

Applicants : Michael Wayne Graham et al.
Serial No. : 10/821,710
Filed : April 8, 2004
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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-43. (Cancelled)

44. (Currently Amended) An isolated nucleic acid comprising:

a first ribonucleotide (RNA) sequence of greater than 20 consecutive nucleotides which is identical in sequence to a region of a transcript of a target gene in a eukaryotic cell, and

a second RNA sequence of greater than 20 consecutive nucleotides which is identical to a complementary ~~to~~ of the greater than 20 consecutive nucleotides of said first RNA sequence, and

~~an intron,~~

wherein the first and second RNA sequences of nucleotides are in the same nucleic acid ~~strand~~ and are separated and linked by a stuffer fragment which ~~comprises~~ consists of a sequence of nucleotides.

45-76. (Cancelled)

77. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the target gene is a viral gene.

78. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the target gene is a nucleotide sequence of a viral pathogen of a plant.

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79. (Currently Amended) The nucleic acid ~~molecule~~ of claim 78, wherein the viral pathogen is a potyvirus, caulimovirus, badnavirus, geminivirus, reovirus, rhabdovirus, Bunyavirus, tospovirus, tenuivirus, tombusvirus, luteovirus, sobemovirus, bromovirus, cucumovirus, ilavirus, alfamovirus, tobamovirus, tobnavirus, potexvirus or clostrovirus.
80. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the target gene is a nucleotide sequence of a viral pathogen of an animal cell.
81. (Currently Amended) The nucleic acid ~~molecule~~ of claim 80, wherein the viral pathogen is a retrovirus.
82. (Currently Amended) The nucleic acid ~~molecule~~ of claim 80, wherein the viral pathogen is an ~~immuno~~-deficiency immunodeficiency virus.
83. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the target gene is a nucleotide sequence of a single-stranded (+) RNA virus.
84. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the target gene is a nucleotide sequence of a double-stranded DNA virus.
85. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the target gene is a transgene in the eukaryotic cell.

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86. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the target gene is a member of a multigene family in the eukaryotic cell.
87. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the target gene is an endogenous gene of the eukaryotic cell.
88. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the eukaryotic cell is a plant cell.
89. (Currently Amended) The nucleic acid ~~molecule~~ of claim 88, wherein the plant is a monocotyledonous plant ~~of~~ or a dicotyledonous plant.
90. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the eukaryotic cell is an animal cell.
91. (Currently Amended) The nucleic acid ~~molecule~~ of claim 90, wherein the animal is a vertebrate animal.
92. (Currently Amended) The nucleic acid ~~molecule~~ of claim 90, wherein the animal is an invertebrate animal.
93. (Currently Amended) The nucleic acid ~~molecule~~ of claim 90, wherein the animal is an aquatic animal.
94. (Currently Amended) The nucleic acid ~~molecule~~ of claim 90, wherein the animal is an insect.
95. (Currently Amended) The nucleic acid ~~molecule~~ of claim 90, wherein the animal is a fish.

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96. (Currently Amended) The nucleic acid ~~molecule~~ of claim 90, wherein the animal is an avian animal.
97. (Currently Amended) The nucleic acid ~~molecule~~ of claim 90, wherein the animal is a mammal.
98. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the eukaryotic cell is a human cell.
99. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the region of the transcript corresponds to coding regions of the target gene.
100. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the region of the transcript is ~~corresponds to~~ a 5'- or 3'-untranslated sequence.
101. (Cancelled)
102. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the stuffer fragment sequence is a sequence of nucleotides 10-~~15~~50 nucleotides in length, ~~50-100 nucleotides in length, or 100-500 nucleotides in length.~~
103. (Cancelled)
104. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44, wherein the total length of the nucleic acid ~~molecules~~ is no more than 2.0 kilobases.
105. (Currently Amended) The nucleic acid ~~molecule~~ of claim 104, wherein the total length of the nucleic acid molecule is no more than 0.5 kilobases.

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106. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44,
which is naked RNA.

107. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44,
which is encapsulated in a liposome.

108. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44,
which is in a virus particle which is an attenuated virus
or associated with a virus coat.

109. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44,
which is comprised in a recombinant viral vector.

110. (Currently Amended) The nucleic acid ~~molecule~~ of claim 44,
which is in a cell.

111. (Currently Amended) A composition comprising a carrier,
excipient or diluent acceptable for human or veterinary
applications and the nucleic acid ~~molecule~~ of claim 44.

112. (Currently Amended) A synthetic construct, comprising a
promoter which is operable in a eukaryotic cell, operably
linked to a nucleotide sequence encoding the nucleic acid
~~molecule~~ of claim 44.

113. (Currently Amended) The synthetic ~~genetic~~ construct of
claim 112, which is in a eukaryotic cell.

114-141. (Cancelled)

142. (New) The nucleic acid of claim 44, wherein the stuffer
fragment sequence is a sequence of nucleotides 50-100
nucleotides in length.

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143. (New) The nucleic acid of claim 44, wherein the stuffer fragment sequence is a sequence of nucleotides 100-500 nucleotides in length.
144. (New) The nucleic acid of claim 44, comprising the first RNA sequence of greater than 20-100 consecutive nucleotides, and the second RNA sequence of greater than 20-100 consecutive nucleotides.